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would still leave a backlog of about 4.7 lakhs unemployed persons in 1970-71. However, the proportion of unemployed persons to the total population would have been reduced from 4.2 per cent to 2.3 per cent.

It may thus be seen that in spite of certain optimistic assumption regarding creation of employment opportunities and a reduction in the intensity of unemployment, the number of unemployed persons by 1970-71 would be large for a State like Kerala. In the long run an effective solution to the over-population of Kerala can only be provided by a reduction in the rate of population growth through intensification of Family Planning Programmes and migration to other parts of India. The need for widespread use of family planning methods and measures to promote migration, is all the more urgent in a region like Kerala where population density is high, rate of growth of population is rapid, and an acute unemployment problem exists. More reliance on measures to create additional employment opportunities within the State is not enough.

This survey like other similar surveys was undertaken by a team of National Council economists and technicians headed initially by Dr. B. Natarajan and later by myself with the assistance specially of Mr. A.K. Mathur and Mr. S.R. Bose both of whom spent considerable time in the State. At the specific request of the Government of Kerala, the Director-General directed the enquiry in all its stages and visited the State on a number of occasions and guided the team. The names of persons who participated in the survey are listed in appendix 1. To all of them, specially to Mr. Mathur on whom the task of drafting the preliminary report fell, I wish to express my thanks. I would also like to acknowledge the help and cooperation received from the Government and the officers of the Kerala Government, specially the Director of Industries in the various stages of the survey. Finally, to the Minister for Industry, Mr. K.A. Damodara Menon I am specially indebted for his continuous interest in the survey and for the support and encouragement he gave to our staff.

P.S. LOKANATHAN
Director General

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4.48 Compared to the eucalyptus plantations, the area over which wattle can grow is rather limited. This tree can only grow in the high ranges at elevations above 4,000 feet. The Hamilton Plateau in the Devicolom range is a suitable locality and there is a proposal to afforest, 5,200 acres during the Third Plan. The cost of afforestation is between Rs. 120 to Rs. 150 per acre. This plantation would supply the raw material for wattle bark extract industry. There does not appear to be much scope for extension of area under this species after the Third Plan period.

4.49 As these plantations are to be raised in the high ranges, it will be desirable to establish regular labour colonies and employ labour on a more or less permanent basis. Some agricultural occupation will also have to be provided to the labour force. It is, therefore, proposed that the establishment of regular forest villages in the grasslands should be seriously considered by the Government. They will also provide the much needed labour for raising and upkeep of the plantations and later for manning the newsprint mills which will be established at the end of 10 years. The exact employment potential is difficult to work out but it is estimated that the plantations will be able to support about 500 families, each family providing two able-bodied workers.

4.50 Cashewnut trees can be raised in the barren forest areas which are considered unsuitable for any other type of forest growth. In Trichur and Malayathur divisions, where these plantations are located, there are further tracts of barren unproductive reserves. Attempts at raising useful forest species having failed, these areas may be put under cashewnut plantations. If Malabar forests are acquired promptly, another 5,000 acres could be planted with cashewnuts during the next decade.

4.51 The technique of cashewnut afforestation is still in an experimental stage, but the highest success obtained so far has been with dribbling seed to a depth of 3 inches at a spacing of 30 ft. × 30 ft. which gives 49 plants per acre. Plantations raised at a spacing of 18 ft. × 18 ft. (125 trees per acre) have also given good results. Experiments on spacing should continue and the optimum spacing in different types of soil may be determined. The cost has been worked out at Rs. 35 per acre plus another Rs. 5 per acre as establishment charges.

Rubber Plantations

4.52 Rubber is one of the chief plantation crops of Kerala. The present area under rubber is roughly 2.5 lakh acres. Since rubber plantations provide a valuable raw material and a good source of employment in the primary sector, it is proposed to raise rubber plantations over a fairly large area of secondary forests. So far as protective functions of a forest area is concerned, this would be a change for the better, as areas under rubber are better protected than a forest and trespasses are not allowed. Other aspects of the problem are discussed in the Chapter 2 on Agriculture and Plantations.

4.53 The targets for additional acreage to be brought under different type of plantations, discussed above and the figures for investment required are summarized